UI Bulletin #158b

Subject	**Installation After-Market Trailer Brake Controller**
Model Years Affected	**2019 - 2021**
Models Affected	**Chevrolet MD Silverado (4500/5500/6500) w/o RPO JL1 or UY7**
Origination Date	**August 26, 2019**
Revision Date	**August 3, 2023**

ADVISORY:

Condition/ Concern:

Some Customers/Upfitters may be interested in adding an after-market trailer brake controller when the vehicle was not equipped with the Integrated Trailer Brake Controller (RPO JL1) and/or Trailer Wiring provisions (RPO UY7).

NOTE: The Integrated Trailer Brake System (RPO JL1) became standard equipment on al MD Trucks and by default the UY7 was standardized as well. Use/Adding of an after-market trailer brake controller is not recommended when the vehicle is equipped with JL1.

Repair/ Recommendation:

For the New Medium Silverado trucks UY7 is only available when the vehicle is ordered and/or built with JL1. The necessary supporting wiring/circuits can be added to the vehicle for use with an after-market trailer brake controller. The following information will provide the locations and requirements. An additional trailer plug receptacle will need to be purchased and installed.

The following circuits must be added to the chassis and routed to the rear of the frame.

2109 is Park Lamps from X104_A3

1624 is the Trailer Backup Lamp from X104_B2

318 is the Stop/Turn LT from X104_G3

319 is the Stop/Turn RT from X104_H3

1242 Trailer Battery+ from X104_H6

Add to UEC Connector X4

22 Trailer Ground - can get from frame

47 Electric Brake (Output from BK controller X138_32 (40-way connector APTIV# 13608632)

The bulk of the circuits that need to be added are in Connector X4 of the Underhood Electrical Center (UEC - X50A) (see item 3 - figure 1)

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The Output from AM Brake controller is in the Chassis inline connector X138_32 (40-way connector) located next or near the UEC (refer to item 6 in figure 2)

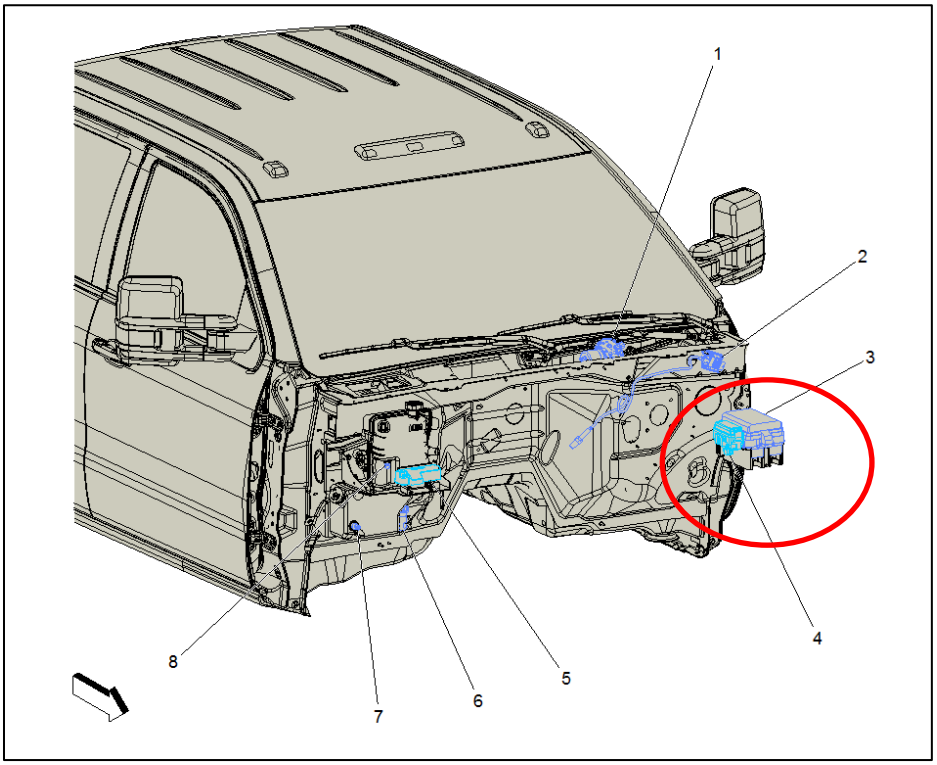

Figure 1

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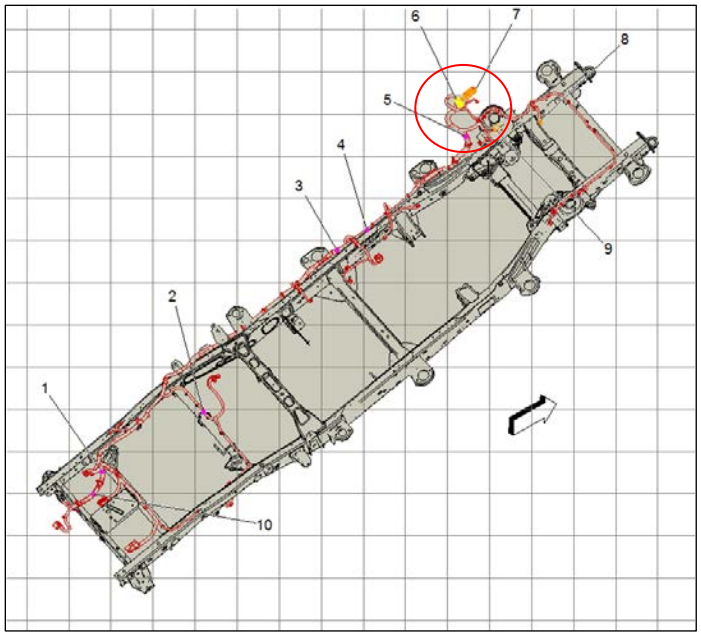

Figure 2

X50A Fuse Block - Underhood Bottom View

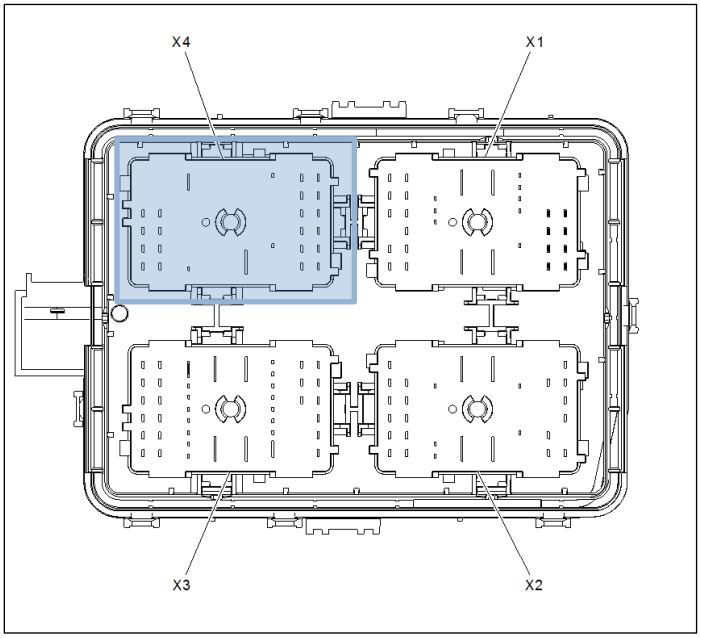

Figure 3

X50A Fuse Block - Underhood X4

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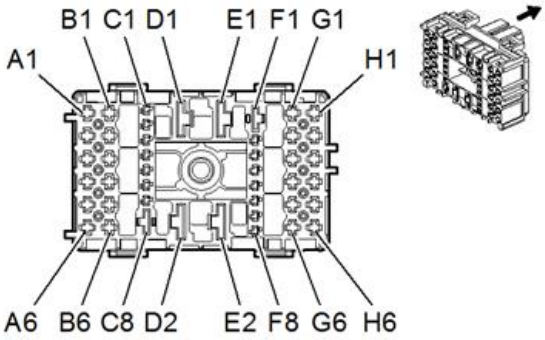

Connector Part Information

- Harness Type: Chassis
- OEM Connector: 4110744C1
- Service Connector: 19371188
- Description: 44-Way F 1.5, 2.8, 6.3 CTS, 9.5 MCON-LL Series (BK)

Terminal Part Information							
Terminal Type ID	**Terminated Lead**	**Diagnostic Test Probe**	**Terminal Removal Tool**	**Service Terminal**	**Tray Name**	**Core Crimp**	**Insulation Crimp**
I	**19332365**	**J-35616-14 (GN)**	**J-38125-215A**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
II	**19332366**	**J-35616-35 (VT)**	**J-38125-215A**	**Not Available**	**Not Available**	**Not Available**	**Not Available**
III	**19332366**	**J-35616-35 (VT)**	**J-38125-215A**	**Not Required**	**Not Required**	**Not Required**	**Not Required**
IV	**84779405**	**J-35616-35 (VT)**	**No Tool Required**	**13943933**	**Not Available**	**Not Available**	**Not Available**
V	**Not Required**	**J-35616-4A (PU)**	**No Tool Required**	**Not Available**	**Not Available**	**Not Available**	**Not Available**

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X50A Fuse Block - Underhood X4						
Pin	Size	Color	Circuit	Function	Terminal Type ID	Option
A1	0.75	VT/GY	1054	Stop Lamp Control 2	II	—
A2	2	VT/GY	709	Left Park Lamp Control	III	—
A3	4	GY/BN	2109	Trailer Park Lamp Control	IV	—
A4	2	GY/BN	309	Right Park Lamp Control	III	—
A5	—	—	—	Not Occupied	—	—
A6	0.5	PK	1739	Run/Crank Ignition 1 Voltage 17	II	—
B1	2	GN/WH	24	Backup Lamp Control	III	—
B2	2	WH/GN	1624	Trailer Backup Lamp Control	III	—
B3	—	—	—	Not Occupied	—	—
B4	2	YE/BN	618	Left Rear Turn Signal Lamp Control	III	—
B5	1.5	VT/GN	439	Run/Crank Ignition 1 Voltage 4	II	—
B6 - C6	—	—	—	Not Occupied	—	—
C7	1	RD	2040	Secondary Fused Battery Positive Voltage 20	I	—
C8 - D1	—	—	—	Not Occupied	—	—
D2	10	RD/YE	—	—	V	—
E1	10	RD/YE	1042	Primary Fused Battery Positive Voltage 10	V	—
E2 - F5	—	—	—	Not Occupied	—	—
F6	0.5	GN/GY	465	Fuel Pump Primary Relay Control	I	—
F7 - G2	—	—	—	Not Occupied	—	—
G3	1.5	YE/BU	318	Left Rear Trailer Stop/Turn Lamp Control	II	—
G4 - G5	—	—	—	Not Occupied	—	—
G6	2	RD/GN	1142	Primary Fused Battery Positive Voltage 11	III	—
H1 - H2	—	—	—	Not Occupied	—	—
H3	2	GN/BN	319	Right Rear Trailer Stop/Turn Lamp Control	III	—
H4	1.5	RD/VT	1242	Primary Fused Battery Positive Voltage 12	II	—
H5	2	RD/VT	1940	Secondary Fused Battery Positive Voltage 19	III	—
H6	2	RD/YE	1242	Primary Fused Battery Positive Voltage 12	III	—

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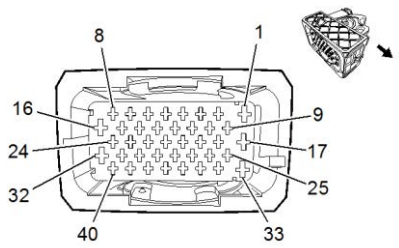
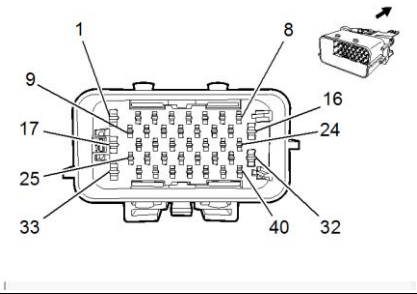
X138 Chassis Harness to Body Harness





Connector Part Information

- **Harness Type: Chassis**
- **OEM Connector: 4086709C1**
- **Service Connector: 13576549**
- **Description: 40-Way F 1.5, 2.8 Series, Sealed (BK)**

Connector Part Information

- **Harness Type: Body**
- **OEM Connector: 13603208**
- **Service Connector: 13576551**
- **Description: 40-Way M 1.5 DSQ, 2.8 ATS Series, Sealed (BK)**

Terminal Part Information							
Terminal Type ID	Terminated Lead	Diagnostic Test Probe	Terminal Removal Tool	Service Terminal	Tray Name	Core Crimp	Insulation Crimp
I	13575429	J-35616-14 (GN)	J-38125-560	Not Available	Not Available	Not Available	Not Available
II	13576369	J-35616-4A (PU)	J-38125-560	Not Available	Not Available	Not Available	Not Available
III	13580829	J-35616-4A (PU)	J-38125-36	Not Available	Not Available	Not Available	Not Available
IV	13580830	J-35616-4A (PU)	J-38125-36	Not Available	Not Available	Not Available	Not Available
V	19368143	J-35616-14 (GN)	J-38125-215A	Not Available	Not Available	Not Available	Not Available
VI	13505807	J-35616-3 (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available
VII	13578881	J-35616-5 (PU)	J-38125-36	Not Available	Not Available	Not Available	Not Available
VIII	13580827	J-35616-5 (PU)	J-38125-36	Not Available	Not Available	Not Available	Not Available
IX	19352419	J-35616-3 (GY)	J-38125-560	Not Available	Not Available	Not Available	Not Available

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X138 Chassis Harness to Body Harness												
Pin	Size	Color	Circuit	Terminal Type ID	Option	Function	Pin	Size	Color	Circuit	Terminal Type ID	Option
1	0.5	GN/BK	7633	IV	—	Trailer Brake Control User Gain Signal	1	0.5	GN/BK	7633	VIII	—
2	0.75	WH/BU	5986	I	—	Serial Data Communication Enable	2	0.5	WH/BU	5986	VI	—
3	0.5	YE	7635	II	—	Trailer Brake Control Manual Apply Signal	3	0.5	YE	7635	VI	—
4	0.5	BU/RD	7632	II	—	Trailer Brake Control Switch 5V Reference	4	0.5	BU/RD	7632	VI	—
5	0.5	BN	7634	II	—	Trailer Brake Control Redundant Manual Apply Signal	5	0.5	BN	7634	VI	—
6	0.5	BK/BN	7631	II	—	Trailer Brake Control Switch Low Reference	6	0.5	BK/BN	7631	VI	—
7	—	—	—	—	—	Not Occupied	7	—	—	—	—	—
8	1 0.75	VT/GY VT/GY	1054 1054	I I	FQT -FQT	Stop Lamp Control 2 Stop Lamp Control 2	8	0.75	VT/GY	1054	VI	—
9	0.5	BU/BN	4498	II	—	High Speed GMLAN Serial Data [+] 7	9	0.5	BU/BN	4498	VI	—
10	0.5	WH	4499	II	—	High Speed GMLAN Serial Data [-] 7	10	0.5	WH	4499	VI	—
11	1	YE/BU	18	I	—	Left Rear Stop/Turn Signal Lamp Control	11	0.75	YE/BU	18	VI	—
12	1	BN/GN	19	I	—	Right Rear Stop/Turn Signal Lamp Control	12	0.75	BN/GN	19	VI	—
13	—	—	—	—	—	Not Occupied	13	—	—	—	—	—
14	0.75	WH/BU	6311	I	—	Cruise/ETC/TCC Brake Signal	14	0.35	WH/BU	6311	IX	—

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15	—	—	—	—	—	Brake Fluid Level Switch Signal	15	0.5	GN/GY	333	VI	—
16 - 17	—	—	—	—	—	Not Occupied	16 - 17	—	—	—	—	—
18	0.5	BU	2500	II	—	High Speed GMLAN Serial Data [+] 1	18	0.5	BU	2500	VI	—
19	0.5	WH	2501	II	—	High Speed GMLAN Serial Data [-] 1	19	0.5	WH	2501	VI	—
20	0.5	VT/YE	5985	II	—	Accessory Wake-Up Serial Data	20	0.5	VT/YE	5985	VI	—
21 - 22	—	—	—	—	—	Not Occupied	21 - 22	—	—	—	—	—
23	1.5	GY/BN	309	V	—	Right Park Lamp Control	23	0.5	GY/BN	309	VI	—
24	1	GN/VT	619	I	—	Right Rear Turn Signal Lamp Control	24	0.75	GN/VT	619	VI	—
25	—	—	—	—	—	Not Occupied	25	—	—	—	—	—
26	0.75	GN/GY	6095	I	—	Right Rear Air Suspension Solenoid Valved Control	26	0.5	WH/GN	320	VI	—
27	—	—	—	—	—	Not Occupied	27	—	—	—	—	—
28	0.75	GN	6094	I	—	Vehicle Level Control Left Rear Air Spring Solenoid Valve Control	28	0.5	GN	10138	VI	—
29	0.5	BK	2550	II	—	Ground 25	29	0.75	BK	2550	VI	—
30	0.5	WH	6974	II	—	Rearview Camera Low Reference	30	0.5	BK	6974	VI	—
31	—	—	—	—	—	Not Occupied	31	—	—	—	—	—
32	1.5	BU	47	III	—	Trailer Auxiliary Control	32	2.5	BU	47	VII	—
33 - 35	—	—	—	—	—	Not Occupied	33 - 35	—	—	—	—	—
36	0.75	GN/VT	1430	I	—	Exterior Courtesy Lamp Control	36	0.75	WH/VT	1430	VI	—

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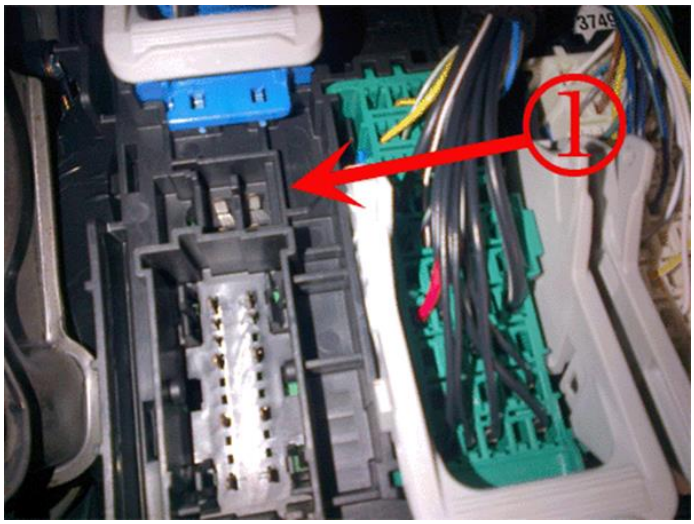
37	0.75	GY/YE	6972	I	—	Rearview Camera Signal [+]	37	0.35	GY/YE	6972	IX	—
38	0.75	WH/BU	6973	I	—	Rearview Camera Signal [-]	38	0.35	WH/BU	6973	IX	—
39 - 40	—	—	—	—	—	Not Occupied	39 - 40	—	—	—	—	—

Additional Information:

Once the chassis wiring has been completely retrofitted the after-market brake controller can installed and can utilize the provisioned connector cavity in the IP (X61) junction with harness P/N 23184088 as shown below



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